

OPTICAL AMPLIFICATION USING LAUNCHED SIGNAL POWERS  
SELECTED AS A FUNCTION OF A NOISE FIGURE

### ABSTRACT OF THE DISCLOSURE

In one embodiment, an optical amplifier includes a gain medium operable to receive a plurality of signals each having a center wavelength and a noise figure associated with at least a portion of the amplifier and varying as a function of wavelength. At least two of the plurality of signals have launch powers that are a function of a magnitude of the noise figure measured at or near the center wavelength of that signal.